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Report of the Independent International Commission of Inquiry on the Syrian Arab Republic*

Summary

Violence throughout the Syrian Arab Republic continues to be waged in blatant violation of basic international humanitarian and human rights law principles, primarily affecting civilians countrywide. During the reporting period, warring parties continued to lay sieges and instrumentalized humanitarian aid in order to erode the viability of civilian support bases and compel surrender. Local truces in Fu'ah and Kafraya, northern Idlib, in Madaya, Damascus countryside, and in Barza, Qabun and Tishreen, eastern Damascus, incorporated evacuation agreements resulting in the forced displacement of civilians from those areas.

Terrorist groups Hay'at Tahrir al-Sham and Islamic State in Iraq and the Levant (ISIL), and armed group fighters targeted religious minorities through car and suicide bombings, the use of snipers and hostage-taking. Among the most vulnerable were internally displaced persons and children. Nowhere was this more evident than in Al-Rashidin, Aleppo, where a car bomb targeted displaced civilians from previously besieged Fu'ah and Kafraya — two predominantly Shia Muslim towns — killing 96 persons, including 68 children.

Government forces continued the pattern of using chemical weapons against civilians in opposition-held areas. In the gravest incident, the Syrian air force used sarin in Khan Shaykhun, Idlib, killing dozens, the majority of whom were women and children. In Idlib, Hamah, and eastern Ghouta, Damascus, Syrian forces used weaponized chlorine. Syrian and/or Russian forces continued to target hospitals and medical personnel.

The Commission is gravely concerned about the impact of international coalition air strikes on civilians. In Al-Jinah, Aleppo, forces of the United States of America failed to take all feasible precautions to protect civilians and civilian objects when attacking a mosque, in violation of international humanitarian law. In Ar-Raqqah, the ongoing Syrian Democratic Forces and international coalition offensive to repel ISIL has displaced over 190,000 persons, and coalition air strikes have reportedly resulted in significant numbers of civilians killed and injured. Investigations are ongoing.

* The annexes to the present report are circulated as received, in the language of submission only.

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I. Introduction

1. In the present report, submitted pursuant to Human Rights Council resolution 34/26, the Independent International Commission of Inquiry on the Syrian Arab Republic presents its findings based on investigations conducted from 1 March 2017 to 7 July 2017.[1]

2. The methodology employed by the Commission was based on best practices of commissions of inquiry and fact-finding missions.

3. The information contained herein is based on 339 interviews conducted in the region and from Geneva.

4. The Commission collected, reviewed and analysed satellite imagery, photographs, videos and medical records. Communications from non-governmental organizations and Governments were consulted, as were United Nations reports.

5. The standard of proof was met when the Commission obtained a reliable body of information to conclude that there were reasonable grounds to believe the incidents occurred as described, and that violations were committed by the warring party identified.

6. The Commission's investigations remain curtailed by the denial of access to the Syrian Arab Republic.

II. Political and military developments

7. During the reporting period, the pace of both political and military developments notably increased. As a result, two distinct dynamics emerged: one in the west of the country, under the de-escalation agreement concluded as part of the Astana talks on 4 May by its three guarantors (Iran (Islamic Republic of), the Russian Federation and Turkey), and the second in the central and eastern parts of the country, where Islamic State in Iraq and the Levant (ISIL) continues to rapidly lose significant swaths of territory. Levels of armed violence decreased in some locations under the de-escalation agreement, including in Idlib, western Aleppo and, more recently, in the southern province of Dar'a. The situation remains volatile, however, in the remaining two zones of eastern Damascus and northern Homs. Beyond the de-escalation zones, civilians, in particular internally displaced persons, in territories held or previously held by ISIL are witnessing increased violence as actors scramble to establish control over those areas.

8. In early July, a fifth round of talks was held in Astana to agree upon implementation modalities covering the de-escalation zones and upon monitoring mechanisms that could involve potential deployment, by the three guarantors, of police or military forces. While neither the Government of the Syrian Arab Republic nor the opposition signed the Astana agreement, the latter remain adamantly opposed to deployment of Iranian forces for monitoring purposes. Technical committees, formed as part of the agreement, continue to discuss the implementation and another round of discussions is expected in early August. During the next round, those modalities will need to be specified and implemented with support from the guarantors. Previous ceasefire agreements have demonstrated that a lack of enforcement mechanisms increases the likelihood of relapse towards prior levels of violence.

9. The Special Envoy of the Secretary-General for Syria, Staffan de Mistura, who attended the latest round of Astana talks, has stressed that the Astana and Geneva processes were "mutually supported actions" with the same aim of supporting ceasefire efforts. The Special Envoy held two rounds of talks in May and July. During the May round, the Government of the Syrian Arab Republic and the opposition agreed to discuss "four baskets" of issues, including political transition, constitutional reform, elections and combating terrorism. The latest round of intra-Syrian talks concluded in Geneva on 15 July. Despite persistent efforts by the Special Envoy, direct talks did not take place, and the rift

[1] The commissioners are Paulo Sérgio Pinheiro (Chair), Karen Koning AbuZayd and Carla Del Ponte.

in positions among parties remains wide. The Government of the Syrian Arab Republic insists on addressing the issue of combating terrorism before any discussion on transition takes place, while the opposition prioritizes discussing a political transition as stipulated in Security Council resolution 2254 (2015). An eighth round of Geneva talks is slated for September.

10. On 7 July, a ceasefire agreement was brokered between the Russian Federation and the United States of America covering the southern provinces of Dar'a, Qunaytirah and Suwayda'. The agreement is aimed at securing humanitarian access and includes a monitoring centre to record ceasefire breaches. Hostilities have already markedly decreased in these three governorates since the agreement took effect.

11. While the Astana and Geneva tracks have achieved some progress, a lack of effective enforcement mechanisms and an absence of a wider agreement on priorities within the larger political framework among parties render this progress tenuous. The Commission has consistently called for an inclusive political process and for a nationwide ceasefire beyond localized agreements.

12. Militarily, front lines in the western area of the Syrian Arab Republic, and particularly those around de-escalation zones in Dar'a, Idlib, eastern Damascus and northern Homs, have generally remained static. In northern Hamah, however, government forces and affiliated militias have, since April, intensified attempts to regain control of the "strategic triangle" area comprising Kafr Zeita, Murek and Al-Latamneh. Attempts to advance on the ground were accompanied by extensive air strikes on these locations, and also on adjacent southern Idlib, where the Khan Shaykhun chemical weapons attack occurred on 4 April.[2] Control over this triangle would result in forces of the Government of the Syrian Arab Republic and affiliated militias gaining a strategic foothold over armed groups in Idlib.

13. A combination of factors in Idlib, including increased concentrations of internally displaced persons and infighting among various armed groups, has placed the civilian population under substantially increased risk of violence. Episodes of infighting have markedly intensified over the past three months, pitting Hay'at Tahrir al-Sham, an umbrella of extremist factions led by the terrorist group Jabhat Fateh al-Sham (formerly known as Jabhat al-Nusra), against Ahrar al-Sham and other affiliates. Both coalitions have vied for control over parts of Idlib through direct clashes, kidnappings and assassinations. The two coalitions also compete to recruit new fighters into their ranks, including evacuees from previously besieged areas. Displaced civilian actors, including members of local councils and activists, also face increased threats and arrests, particularly by members of Hay'at Tahrir al-Sham, for their dissident activities. While air strikes in Idlib have decreased, the Commission remains extremely concerned about the internal situation in the governorate as the scope and intensity of infighting increases in areas where an estimated one million internally displaced persons subsist without adequate humanitarian assistance.

14. Moreover, the majority of internally displaced persons in areas controlled by the Government, armed groups or terrorists continue to face difficulties accessing humanitarian assistance due to a diversion of and lack of access to aid. In some areas, the impact of unilateral sanctions has further weakened the ability of humanitarian actors to deliver, owing to increased prices and reduction in the availability of crucial items in local markets.

15. In contrast to the western part of the country, front lines elsewhere have changed drastically over the past three months. Outside the de-escalation zones, the forces of the Government of the Syrian Arab Republic and affiliated militias deployed fighters to overtake vast swaths of territory from ISIL, namely in the centre and east of the country and, most notably, in Aleppo, Homs and Ar-Raqqah, and reaching the eastern edges of Dayr el-Zawr Governorate. Newly recaptured territory extends to strategic portions of the Iraqi-Syrian border. In this context, on 18 May and 6 June, air strikes by the United States

[2] In response to the chemical attack in Khan Shaykhun, on 7 April United States forces launched cruise missiles striking Sha'irat airbase, from which the United States claimed the aircraft that launched the attack had originated.

hit a convoy of pro-Government forces in the strategic Tanf region across the Jordanian and Iraqi borders, potentially escalating tensions in this highly contested area.

16. The past few months have also witnessed significant advances by the Syrian Democratic Forces against ISIL in Ar-Raqqah, the terrorist group's self-proclaimed capital city. The Syrian Democratic Forces, comprising Kurdish forces, namely the People's Protection Units (YPG), alongside affiliated groups, including the Free Syrian Army and tribal elements, have gained control over portions of Ar-Raqqah city and are effectively besieging it. Tens of thousands of civilians are reportedly trapped as street-to-street battles between the Syrian Democratic Forces and ISIL continue to intensify. Nearly 200,000 internally displaced persons have fled the city towards territory controlled by the Syrian Democratic Forces. The Commission is concerned about the fate of 50,000 to 60,000 civilians who remain trapped in Ar-Raqqah city.

17. While the de-escalation agreement in Astana has resulted in some reduction in violence, the Syrian conflict remains highly fragmented as distinct dynamics evolve in various parts of the country. The increasing involvement of external actors, while creating some opportunities for localized peace, also bears the seeds of discord as these actors have diametrically opposed objectives. These objectives are often connected to broader regional or international interests — far from the interests of the Syrian people, which should prevail in the process of ending the conflict and building peace.

III. Attacks against the civilian population

A. Sieges

18. Use of siege warfare has affected civilians more tragically than any other tactic employed by warring parties in the conflict. Presently over 600,000 Syrian men, women and children countrywide remain trapped in besieged locations, often in the most dire conditions. During the period under review, warring parties continued to lay siege to encircled communities and instrumentalize humanitarian aid deliveries to trapped civilians in order to compel surrender in Damascus, Rif Damascus, Dayr el-Zawr, Homs and Idlib Governorates. These sieges are characterized by the routine denial of delivery of vital foodstuffs, health items and other essential supplies to besieged enclaves, as well as indiscriminate attacks and deliberate attacks targeting civilian infrastructure, including hospitals, in order to erode the viability of life under the control of opposing sides. Such tactics result in the denial of the rights to freedom of movement, adequate food, access to education and access to health care, and, in many instances, the right to life.

19. Some sieges ended during the reporting period as a result of local truces that included evacuation agreements (discussed further below). For example, an agreement initially negotiated in September 2015, known as the Four Towns Agreement, was implemented beginning in April 2017, concerning Madaya and Zabadani, in Rif Damascus, and Fu'ah and Kafraya, in Idlib. Negotiations for the Four Towns Agreement took place with armed groups and under the aegis of third States, which assisted in brokering it. Similarly, in May, pro-Government officials and mediators on one side, and armed group members and/or local council representatives on the other, negotiated and implemented truces in Barza, Tishreen and Qabun, in eastern Damascus. Siege conditions endured by civilians in these localities are summarized in annex III, along with details on negotiations and stipulations within these agreements. All truces mentioned above have incorporated evacuation agreements, which has led to the forced displacement of thousands of civilians from those areas.

1. Government reconciliation

20. After hostilities fully ceased and truces were implemented in the four towns and in Barza, Tishreen and Qabun, pro-Government forces required certain individuals from the previously besieged areas to undergo a reconciliation process as a condition to remain, while others were not given the opportunity to reconcile. Legislative Decree No. 15 of July 2016 serves as the basis for reconciliation, and includes amnesty for all individuals who

turn themselves in and lay down their weapons, including fugitives. These individuals have generally included fighters and civilians wanted for defecting or deserting.

21. In effect, the reconciliation process allowed government forces to categorize populations on the basis of allegiance, by filtering fighting-age males, generally aged 18 to 45 years, into two categories: armed group members and wanted individuals who cannot stay in the locality and risk detention if they do, and those who agree to pledge loyalty to the Government. The latter group are permitted to stay but are forcibly conscripted into either local units under the umbrella of the National Defence Forces or into a paramilitary force, or sent to front lines as part of the Syrian army after a six-month notice period. In Barza, some fighting-age males were reportedly conscripted into a local unit called the "Nation's Castle" within 15 days.

22. Not all civilians were offered the option to reconcile, however. In Madaya, no reconciliation was offered to health-care personnel because of their medical work. Civilians able to remain in Madaya were required to fingerprint statements of loyalty to the Government, while others also underwent background checks. Similarly, in Barza, civilians explained that those unable to reconcile included members of the local council, relief workers, activists and family members of fighters. Civilians in Barza who were able to reconcile submitted to the same procedure as was implemented in Madaya. Civilians in these localities further spoke of lists of individuals who were not offered reconciliation due to their sympathy with opposition groups. As such, the reconciliation process has induced the displacement of both fighters and groups of dissident civilians in the form of organized evacuations.

2. Evacuation agreements and forced displacement

23. Agreements between pro-Government forces and armed groups concerning the four towns (brokered with the assistance of third States) and Barza, Tishreen and Qabun provided for the evacuations of set numbers of fighters and civilians. Parties to a non-international armed conflict may not order the displacement of the civilian population for reasons related to the conflict, unless the security of those civilians or imperative military reasons so demand.[3]

24. The exception based on the security of civilians would be justified, for example, to prevent civilians from being exposed to grave danger. Displacement for humanitarian reasons is not permissible where the humanitarian crisis causing the displacement, such as starvation, is the result of a warring party's own unlawful conduct.[4] Further, the humanitarian obligation to evacuate wounded and sick individuals from conflict areas exists at all times, and is therefore not limited to the period of evacuation under such agreements.[5] Similarly, the evacuation of civilians based on military necessity may not be justified by political motives.[6]

25. On 14 April, 60 buses carrying an estimated 2,350 people from Madaya departed for the Ramouseh garage area in Aleppo city, after which they were transported to Idlib. Simultaneously, 75 buses carrying 5,000 people from Fu'ah and Kafraya departed towards Al-Rashidin in western Aleppo city (see paras. 39-43 below). On 19 April, another 11 buses carrying fighters and civilians from Madaya, Zabadani and neighbouring areas departed for Idlib, rendering Zabadani completely depopulated. On the same day, another 3,000 fighters and civilians evacuated Fu'ah and Kafraya towards Al-Rashidin.

26. In eastern Damascus, three rounds of evacuations of fighters and civilians from Barza took place on 8, 12, and 20 May. In Tishreen, all fighters and civilians were

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[3] International Committee of the Red Cross (ICRC), *Customary International Humanitarian Law*, vol. I, *Rules*, rule 129 (b).

[4] See International Tribunal for the Prosecution of Persons Responsible for Serious Violations of International Humanitarian Law Committed in the Territory of the Former Yugoslavia since 1991, *Prosecutor v. Milomir Stakić*, appeals judgment, IT-97-24-A, 22 March 2006, para. 287.

[5] ICRC, *Customary International Humanitarian Law*, rule 109.

[6] See ICRC, *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949* (Geneva, 1987), para. 4854.

evacuated on 12 May. In Qabun, two main rounds of evacuations were organized: the first on 14 May, which comprised 70 buses, and a subsequent round of 80 buses. The latter evacuations were followed by smaller rounds, comprising 20 buses each, on 15 May. Approximately 6,000 fighters and civilians left Qabun. The terms of the local truce were communicated to civilians on 12 May, giving them only a few days to evacuate.

27. Government forces and armed groups have routinely denied humanitarian evacuations for wounded and sick civilians and fighters until surrender (truces) and subsequent evacuation, granting it only in rare instances when exchanges between the four towns were negotiated. Civilians in Qabun, for example, recalled using tunnels connecting Qabun to eastern Ghouta, Damascus, to evacuate the wounded, although infighting between rebel factions affected the regularity of tunnel access.

28. Civilians interviewed by the Commission echoed how their decision to evacuate previously besieged areas was involuntary in nature and that they had accepted to leave because they "had no choice". Women and children mostly followed their male heads of household. In Madaya, civilians emphasized that they did not want to abandon their land and property, but did not trust government forces enough to stay. Some women in Madaya, for example, described fear that their sons would be conscripted and a general distrust of government forces as their reasons for not reconciling. Other civilians recalled how the same fear that drove them to evacuate to Idlib also had an impact on their right to return. Those civilians feared reprisal violence or detention, noting they would not return to their homes even if given the option, with others having largely given up on the prospect. Still others had become aware that their homes had been looted or appropriated by pro-government forces.

29. Similarly, in Kafraya, interviewees described how siege conditions had forced them to evacuate despite their desire to remain. One interviewee recalled watching her children become increasingly malnourished, while another noted increased attacks and outbreaks of preventable illness that had pushed civilians to leave. Interviewees in Kafraya also expressed doubt concerning their ability to return to their homes following evacuations.

30. Often, local councils in opposition-held areas have entered into memorandums of understanding with armed groups in order to delineate responsibilities and affirm their capacities as elected officials of quasi-civil governance bodies. Despite this, neither political leaders, such as local council representatives, nor military commanders, such as pro-Government or armed group fighters, possess the requisite authority to consent to evacuation agreements on behalf of individual civilians.[7] Moreover, although some humanitarian organizations have participated in facilitating evacuations in varying capacities, including the Syrian Arab Red Crescent during the evacuations of Madaya and Tishreen, their participation does not render the underlying displacements lawful.[8]

31. By evacuating to the border of Idlib Governorate civilians, including doctors, relief workers, activists, civil society staff and local council members, who are, or who are perceived to be, sympathetic to opposition factions, government forces are able to serve a calculated warring strategy: population transfers in this context remove both opposition actors and their supporters to a single area in the northwest area of the Syrian Arab Republic. Only those civilians who are offered the chance to pledge loyalty to the Government in the form of reconciliation may remain in their homes. Overall, the pattern of evacuations occurring throughout the country appears intended to engineer changes to the political demographies of previously besieged enclaves, by redrawing and consolidating bases of political support.

32. As evinced by the 15 April attack on the convoy in Al-Rashidin (see paras. [illegible]-43 below), evacuations are perilous and desperate journeys. Civilians evacuated from Madaya, Barza, Tishreen and Qabun were only able to carry modest possessions with them, were not

[7] See International Tribunal for the Former Yugoslavia, *Prosecutor v. Mladen Naletilić, aka "Tuta" and Vinko Martinović, aka Štela*, trial judgment, IT-98-34-T, 31 March 2003, para. 523.

[8] See *Prosecutor v. Milomir Stakić*, appeals judgment, para. 286; see also *Prosecutor v. Milomir Stakić*, trial judgment, IT-97-24-T, 31 July 2003, para. 683.

evacuated to final destinations of their choice and were not provided with satisfactory conditions of shelter, hygiene, health, safety or nutrition either en route or once they reached Idlib.

33. Some of those displaced from Madaya and Barza were initially accommodated in schools in Idlib, which were ill-prepared to receive them. Others later moved to overcrowded camps for internally displaced persons, or to towns in the Idlib countryside described by an evacuee as "desperate". While civilians throughout Idlib Governorate continue to live under bombardment, suffer from a lack of aid and are exposed to the effects of increased armed group infighting (see para. 13 above), the final destinations of those transferred from Government-sympathetic Fu'ah and Kafraya were areas under Government control in Homs, Tartous and Latakia Governorates.

34. Additionally, the Government has reportedly implemented legislative measures to dispossess dissenting populations of their property, and has raised legal and administrative measures to impede displaced persons from registering or retaining private property. Recently issued presidential decrees require in-person registration and contestation of land titles countrywide. Requirements to register land titles or contest ownership in person would render it virtually impossible for many internally displaced persons and refugees to protect their properties. The use of such legal and administrative tools may also be intended to pressure certain populations to reconcile, so as not to lose their property. Such measures may have the opposite effect, however, by further disenfranchising significant segments of the population, and complicating future efforts towards conflict resolution and, ultimately, reconciliation.

35. For each civilian who was unable to freely decide on his or her movement or destination, the agreement to evacuate him or her amounts to an unlawful order. There is no indication that any of the evacuations satisfied the exceptions permitted on the basis of security of civilians or imperative military reasons. Therefore, the ordering of dissenting populations to evacuate Madaya and Barza, the general evacuation of Fu'ah and Kafraya, and the ordering of the entire civilian populations to evacuate Tishreen and Qabun constitute the war crime of forced displacement. The Commission has received conflicting information on the presence of civilians in Zabadani at the time of its evacuation.

B. Targeting and hostage-taking of religious minorities

36. Like government forces, armed groups have galvanized bases of support throughout the conflict, manifesting in heightened religious tensions and leading to violence with sectarian undertones carried out against civilians. The emergence of terrorist and extremist armed groups further fuelled such tensions. During the reporting period, terrorist and armed groups continued previously documented patterns of carrying out intentional attacks against civilians, many of them women and children, belonging to minority religious groups, and using other religious minorities as hostages.

37. On 11 March, at midday, two explosions detonated near the Bab al-Saghir cemetery, a well-known Shia pilgrimage site south of the old city of Damascus. The explosions detonated 10 minutes apart in the parking lot of the cemetery, where buses transporting pilgrims were parked. The first explosion was set off by a passing bus. As ambulances arrived and first responders tended to victims, a suicide bomber killed more pilgrims and several rescuers.

38. Overall, the two explosions killed 44 civilians, including 8 children, and injured another 120, leaving several women and children in critical condition. The majority of victims were Iraqi Shia pilgrims visiting Bab al-Saghir and the nearby Sayeda Zeinab shrine. Thirteen Syrians, mostly first responders, also died in the attack. The following day, Hay'at Tahrir al-Sham claimed responsibility for the attack, claiming it was targeting Iranian militias and government forces. The Commission found no evidence to substantiate the claim.

39. In the early hours of 14 April, evacuees from Fu'ah and Kafraya (see paras. 19 and 25 above), arrived in opposition-held Al-Rashidin on the outskirts of Government-held

western Aleppo city. They remained there the following day while warring parties worked out disagreements among themselves. Evacuees recalled fearfully boarding buses prior to leaving Fu'ah and Kafraya after armed group members fired shots that injured two women.

40. While waiting in Al-Rashidin, evacuees received very limited amounts of food so, when at around 3 p.m. someone began distributing snacks from a silver car, dozens of children gathered around the car. About a half an hour later, a blue pickup arrived and evacuees, mostly women and children, rushed to it believing it too would be bringing food. Instead, within seconds, the pickup exploded, killing at least 96 people, including 68 children and 13 women. Another 276 individuals were injured, including 42 children and 78 women, at least 1 of whom was pregnant. As people screamed and scattered around, some onlookers yelled sectarian insults at the Shia victims. A mother whose husband took their two sons to obtain food from the silver vehicle described rushing to the scene upon hearing the explosion, but she was forced by armed group fighters to return to the convoy. She subsequently learned that her 10-year-old son had died.

41. Although the vast majority of casualties were evacuees from Fu'ah and Kafraya, at least 10 armed group fighters were also killed in Al-Rashidin. Casualties were taken to hospitals in Bab al-Hawa, Idlib; Atareb, Aleppo; Aqrabat, Idlib; Saraqeb, Idlib; and Thawed al-Kennah, Aleppo. The remaining evacuees, however, were transported from Al-Rashidin to Jibreen, Aleppo, on the evening of 15 April, without knowing the whereabouts of their families. In Jibreen, evacuees provided the names of those missing to government authorities, and some of the injured have since been reunited with their families. At least 46 persons, including a 3-year-old boy, remain missing.

42. While a number of those missing are likely still hospitalized, at least one group of 17 Shia individuals, including elderly persons and children, were taken hostage by armed group fighters immediately after receiving treatment in makeshift hospitals in western Aleppo. Some hostages were released after prolonged negotiations involving the swap of a high-ranking armed group leader, but at least 15 others, including one 4-year-old child, remain in captivity.

43. No party has claimed responsibility for the attack in Al-Rashidin, and Hay'at Tahrir al-Sham and Ahrar al-Sham have explicitly denied involvement. While there is insufficient information from which to identify the perpetrator, there are significant indications to conclude the attack was carried out by armed group factions or fighters. Eyewitnesses reported seeing the blue pickup that detonated arrive from opposition-held territory, and the location of the convoy was under the control of a number of armed groups, including Nour al-Din al-Zenki (then part of Hay'at Tahrir al-Sham), Ahrar al-Sham and Free Syrian Army groups. Further, vehicle borne improvised explosive devices have primarily been a modus operandi of extremist factions and some armed groups throughout the conflict. In view of the high number of civilian casualties, particularly among children, it is clear that Shia civilians from Fu'ah and Kafraya were the object of the attack, amounting to the war crime of intentional attacks against civilians.

44. On 18 May, ISIL militants attacked the town of Aqarib al-Safiyah and attempted to attack nearby Al-Mardouja village in the Hamah countryside. Both areas were under Government control at the time, and located on the border of ISIL-held territory, close to Al-Salamyia — a strategic location for warring parties vying for control of Hamah. Aqarib al-Safiyah and Al-Mardouja are predominantly populated by Ismailis, a minority Shia Muslim community.

45. Residents of Aqarib al-Safiyah awoke at 4 a.m. on 18 May to the sound of gunshots. As they attempted to flee, many were killed in the streets by ISIL snipers positioned at the village's water reservoir and on the roofs of houses. At least two families were hiding in bedrooms when ISIL militants stormed their homes and shot them at close range; among the victims were a 4-month-old baby and an 11-year-old boy. In total, 52 civilians were killed, including 7 women and 12 children. Another 100 were injured, including 2 girls who suffered serious head wounds. The vast majority of victims were Ismaili Muslims. Survivors recalled being verbally insulted by ISIL fighters on account of their religious

beliefs. During a similar attack on Al-Mardoonja in 2015, ISIL militants killed up to 46 civilians, most of whom were also Ismaili Muslims.[*]

46. Earlier this year, a group of hostages held by armed groups in Douma, in the Damascus countryside, for over three years was released in exchange for armed group fighters detained by government forces. On 11 December 2013, various armed groups, including Jaysh al-Islam and Ajnad al-Sham (currently part of the Faylaq ar-Rahman coalition) stormed the town of Adra al-Omaliyah in eastern Damascus. Numerous Alawite families, including young children, in addition to some Ismaili, Shia, Druze and Christian families, were ordered by fighters to stay in the basements of their apartment complexes, where they remained in de facto detention. Later, armed group members entered the basements to inquire about the backgrounds of male family members, at which point some civilians were intimidated, verbally assaulted and derogatorily referred to as "nusairis" by the fighters. Some of the civilians were informed five or six months later by armed group emirs that they would be "distributed" to different armed group factions, as they were considered war booty.

47. At the next detention site, relocated hostages recounted how men were separated from women and children, although members of Ajnad al-Sham reunited families under their control "once or twice a month". Detained women described overhearing the brutal torture of male detainees. One Alawite woman who managed to escape the events of 11 December 2013 in Adra al-Omaliyah was contacted in August 2014 by an armed group representative who presented himself as the head of the "office of hostages". The man claimed that her husband had been moved to Douma and then facilitated contact between her and her husband. Over the course of the next two and half years, she was able to communicate briefly with her husband on five occasions via mobile telephone. On one occasion, her husband sent her a picture of himself, in which he appeared to be "half of his weight". Released hostages echoed that Faylaq ar-Rahman routinely denied them food and medical care.

48. Other hostages released in 2017 described how members of Ajnad al-Sham forced exhausted men to dig tunnels in besieged Douma for the groups to use as supply routes to eastern Ghouta (see para. 27 above). One woman recalled how her son was killed when government forces bombed out the tunnel he was digging in late August 2016. Some men were also forced to dig wells, while elderly men were exempt from labour. Up to 100 men from Adra al-Omaliyah belonging to minority religious groups remain in captivity as hostages, waiting to be swapped. Up to 175 women and children from Adra al-Omaliyah are still detained.

IV. Impact of the conflict on children

49. Children throughout the Syrian Arab Republic remain disproportionally vulnerable to violence and abuse. The overwhelming impact of the conflict on civilians during the reporting period revealed that children remain victimized on multiple grounds, and continue to be denied the protection to which they are entitled under the Convention on the Rights of the Child, to which the Syrian Arab Republic is party. Syrian children suffered as a consequence of attacks against civilians, lack of access to education, and their recruitment as child soldiers. For example, out of the 179 individuals killed during the chemical weapons attack in Khan Shaykhun and the suicide bombing in Al-Rashidin, 54 per cent of the deaths were of children.

50. On 7 March, at approximately 9.20 a.m., aerial bombardments carried out by pro-Government forces struck a primary school complex in Ataya, eastern Damascus, while classes were in session. Eight female students were injured, one in second grade who suffered head injuries. Less than one month later, on 2 April, the primary school was struck again, although no children were harmed. While the primary school is still standing, parents in Ataya now refuse to send their children to school fearing further air strikes. After the 4

[*] See A/HRC/30/69 and Corr.1, para. 128.

April were struck in Khan Shaykhun (see paras. 72-77 below and annex II), five schools were forced to shut down in the town, namely, Ahmad Talhan, Farouk al-Kang, Salh al-Dawadi, Adnan al-Malkwa and Tawasoum schools. Attacks against schools seriously violate the right to education and gravely undermine the future potential for Syrian children to participate fully in their communities.

91. The Commission continues to receive numerous allegations of children being recruited, placed in training camps and, in some cases, sent to active front lines. In March, for example, one 14-year-old boy joined the Syrian Democratic Forces in Tal Abyad, Ar-Raqqah, without the consent of his parents. He had approached a Syrian Democratic Forces recruitment centre in Tal Abyad voluntarily, was accepted by authorities of the Forces, and was killed in combat in early June in Ar-Raqqah countryside. Representatives of the Syrian Democratic Forces communicated the news of the boy's death to his family, but did not allow the family to bury him, instead burying him in a cemetery for "martyrs". Numerous accounts of ISIL militants recruiting, training and using children in Ar-Raqqah also continue to be received.

V. Attacks against protected objects

A. Places of worship

92. Beyond intentional attacks against religious minorities, incidental attacks against religious cultural property were carried out during the reporting period, undermining the ability of civilian communities to peacefully express their faiths. In one emblematic example, minutes before 7 p.m. on 16 March, a series of air strikes hit a building in a religious complex in Al-Jinah, killing 38 persons, including 1 woman and 5 boys. Three of the boys were aged between 6 and 11 years. 2 others were 17 years old. An additional 26 persons were injured, many of whom suffered from crushed limbs, head trauma and suffocation caused by structural collapse. First responders began a rescue operation immediately after the air strikes, and continued to retrieve bodies from under the rubble until the following morning.

93. Al-Jinah, a village in western Aleppo countryside that closely borders Idlib Governorate, is controlled by Hay'at Tahrir al-Sham, Ahrar al-Sham and a number of local Free Syrian Army groups, among others. On 16 March, the United States Central Command issued a statement announcing that "U.S. forces conducted an air strike on al-Qaeda (...) killing several terrorists" at a meeting location in Idlib.[10] It subsequently clarified that the statement referred to the Al-Jinah air strike. Over the following days, media outlets and non-governmental organizations reported that all casualties were civilians attending a religious lesson at the Omar Ibn al-Khattab mosque, although the Pentagon denied hitting a mosque or killing civilians. The mosque is located approximately 1.5 kilometres from the centre of Al-Jinah, between Al-Jinah and Ibeen. The air strikes were carried out by United States forces in their capacity as a member of the international coalition.

94. On 7 June, the United States Central Command presented a summary of its post-investigation findings on the incident, including interviews with "dozens of persons", but none were in Al-Jinah at the time of the attack.[11] It found that the strike killed one civilian, possibly a child, but noted it was proportional to a valid military objective, as it claimed to have struck a building, which was adjacent to a prayer hall, where an Al-Qaida meeting was taking place at which "regional leaders" were present.

[10] See www.centcom.mil/MEDIA/PRESS-RELEASES/Press-Release-View/Article/1121747/us-forces-strike-al-qaeda-in-syria.

[11] On 7 June, the United States Central Command issued a summary of its findings and conducted a closed-door briefing for journalists, which was widely reported on. Subsequently, a non-governmental organization posted an unofficial transcript of the briefing online that matched details reported in media.

55. The United States Central Command stated that F-15 aircraft had struck the building adjacent to the prayer hall with 10 bombs, that an MQ-9 drone had fired two missiles at targets who had emerged from the building, and that the weaponry chosen had been designed to avoid collateral damage. It added that the team had had information on the target three days prior to the attack but had not begun target planning until the day of the strike. It also acknowledged that the team had failed to identify the religious nature of the buildings, admitting that that had been a preventable error. Finally, it found irregularities in changeovers of teams on shift, which had "contributed to a lack of situational awareness, knowledge and understanding among the strike cell individuals".[12]

56. Investigations into events surrounding the air strikes were initially focused on establishing whether a lawful target existed. The Commission collected satellite imagery and photos taken of the site, which confirmed the assessment of the United States Central Command that the weaponry used was intended to avoid collateral damage. Based on bomb fragments found at the scene, the Commission determined that the affected structure had been hit by numerous aerial bombs. An assessment of fragments found at the site, photos, satellite imagery and witness testimony reveal that up to eight GBU-39s (guided bomb units) and other munition were used. While only GBU-39 fragments were found, based on crater depth it is likely that two 500-pound joint direct attack munitions, with delay fuses, were also used. Delay fusing is used to contain collateral effects, as the bomb would detonate underground, collapsing a structure while keeping blast and fragmentation localized.

57. The GBU-39, used to target specific parts of a building, is a low-yield bomb with minimal blast and fragmentation. It was used to destroy the target with minimal collateral damage to the surrounding area, including the adjacent prayer hall. A follow-on strike using two Hellfire missiles killed individuals fleeing the mosque. Indeed, Hellfire missile fragments were found outside the site, and fragmentation patterns on the road are consistent with a Hellfire missile containing a fragmentation sleeve around the warhead.

58. Omar Bin al-Khatab mosque is part of a larger religious complex, which includes a service building adjacent to a prayer hall used for religious gatherings. Interviewees described it as the largest mosque in Al-Jinah and surrounding villages, and well-known in the area. Witnesses further identified the service building as the one directly hit by the air strikes. Apart from meeting rooms, the service building contained a kitchen to prepare meals for worshippers, a dining area and bathrooms. Interviewees referred to the service building as part of the mosque, and indeed such buildings are essential to the functionality of mosques, which commonly serve as community education and social centres for worshippers.

59. Most of the residents of Al-Jinah, relatives of victims and first responders interviewed by the Commission stated that on the evening in question, a religious gathering was being hosted in the mosque's service building. This was a regular occurrence at the mosque attended by hundreds of congregants: every Thursday, worshippers gathered for sunset prayer, a religious lesson followed by nightly prayer, and a meal. The air strikes hit the service building at approximately 6.55 p.m., just as the religious lesson was concluding and the meal was being prepared. The nightly prayer was scheduled to begin 15 minutes later. Interviewees described how several air strikes hit the centre of the building, causing it to implode. With the exception of 2 survivors, all others, estimated to be at least 15, who were in the kitchen or bathrooms, were killed. As people attempted to flee through the western door, a drone fired two missiles, killing them in the streets.

60. In this instance, the service building was part of the mosque complex and was being used for religious purposes. Mosques are protected objects under international humanitarian law. Protected objects may not be made the object of attack unless used for military purposes, which would be the case if an Al-Qaida meeting, with regional leaders present, was in fact taking place. The United States Central Command has not released any details proving this was the case. Further, information gathered by the Commission does not support the claim that any such meeting was being held at that time. Interviewees described

[12] Ibid.

the gathering as strictly religious, and explained that most attendees were Al-Jinah residents, and that many of them were internally displaced persons, with the exception of some residents from neighbouring towns, such as Atarib.

61. Some interviewees, however, noted an Hay'at Tahrir al-Sham presence in the village, and it cannot be ruled out that some members of that group may have attended the gathering. In this regard, the Commission notes that even though bombs designed to inflict low collateral damage were used, the United States targeting team lacked an understanding of the actual target, including that it was part of a mosque where worshippers gathered to pray every Thursday. Moreover, although the targeting team had information on the target three days prior to the strike, it did not undertake additional verification of target activities in that period, which would be expected were it known to be a mosque. The Commission therefore concludes that United States forces failed to take all feasible precautions to avoid or minimize incidental loss of civilian life, injury to civilians and damage to civilian objects, in violation of international humanitarian law.

B. Medical facilities

62. Since its inception, attacks against medical facilities and medical personnel have been a tragic hallmark of the Syrian conflict. In an attempt to protect health-care infrastructure, personnel and patients, many hospitals and clinics in areas under opposition control have relocated underground, operating from reinforced basements and, sometimes, from caves dug into mountains. "Cave hospitals" are typically located on the outskirts of Syrian towns, without any other buildings in their vicinity. While such measures are intended to afford additional protection, intentional attacks against underground and cave hospitals continue to transpire.

63. Between March and April, when Syrian and Russian forces heightened their aerial campaign to gain control of Kafr Zeita, Murek and Al-Latamneh, the only remaining towns in northern Hamah controlled by Hay'at Tahrir al-Sham and armed groups, a surge of air strikes on medical facilities in northern Hamah and southern Idlib were carried out. These attacks took place shortly before and after Syrian forces used chemical weapons in the same area (see paras. 69-70 and 72-77 below), thus preventing victims of chemical attacks from obtaining essential medical treatment. In one of the attacks, pro-Government forces used chlorine, while in another they used cluster incendiary munitions. The Commission has previously reported on pro-Government forces using such weapons to attack both medical facilities and individuals providing medical care in eastern Aleppo city.[11]

64. In the afternoon of 5 March, an air strike hit the Al-Sham underground hospital in Kafr Nabl, southern Idlib, destroying two floors and a generator and injuring one hospital worker. Interviewees recalled that the hospital had been rendered out of service as a result of an air strike on 25 February, noting that the number of civilian casualties would have otherwise been significantly higher. On 25 March, at approximately 1 p.m., a Syrian air force helicopter dropped a barrel bomb on Al-Latamneh hospital, killing three civilian men — a surgeon and two patients — and injuring a number of staff and patients. Photos of remnants provided to the Commission depict an improvised chlorine bomb. Eyewitnesses heard the bomb make only a slight noise before releasing a yellow/greenish smoke that smelled strongly of cleaning agents. The use of chlorine is further corroborated by symptoms reported: at least 32 persons were injured as a result of the attack, most of them suffering from irritated throats and eyes, difficulties breathing, vomiting and frothing of the mouth. One interviewee said that some of the injured were armed group fighters. In this regard, the Commission notes that the use of chemical weapons is prohibited in all circumstances, including when a military objective is present.

65. On 2 April, the Maarat al-Numan national hospital was struck by at least three delayed-fuse aerial bombs (see annex II, para. 15). Two days later, an air strike hit the Al-Rahma medical point in Khan Shaykhun (see annex II, paras. 17-18). A clinic in Heish,

[11] See A/HRC/34/64, paras. 33-35.

southern Idlib, was hit by air strikes on 7 April, and one eyewitness recalled seeing an airplane drop a bomb that released numerous smaller units, several of which hit the clinic's fuel generator and started a fire, forcing the clinic to relocate. Photos of remnants indicate that the clinic was hit with a ShOAB-0.5 cluster bomb and cluster incendiary bombs. On 22 April, at approximately 2 p.m., an air strike hit a cave hospital in Abdeen, southern Idlib, killing seven people, including a 6-month-old girl awaiting surgery. Her parents, a nurse and three patients were also killed. On 28 April, at around 4 p.m., an air strike hit a surgical and maternity hospital in Kafr Zeita, causing damage to the facility. The hospital was aerially attacked again at 2 a.m. on 29 April, directly affecting the emergency room and forcing the evacuation of all patients to the only remaining hospital in Kafr Zeita, located in a cave. Later that day, at around 2 p.m., a third air strike completely destroyed the facility, where, until then, over 100 babies had been delivered each month. Satellite imagery shows air strike damage to the hospital facility, likely from a 250-kilogram blast weapon, and indications of several near misses.

66. The number and frequency of attacks against health-care facilities, particularly repeated bombardments of the same facilities and routine lack of warnings, clearly indicate that pro-Government forces continue to intentionally target such facilities as part of a warring strategy, amounting to the war crime of deliberately attacking protected objects.[14] Deliberate attacks against health-care workers further constitute the war crime of intentionally attacking medical personnel. The 25 March attack on Al-Latamneh hospital with chlorine further violates the Chemical Weapons Convention. The Commission reiterates that the use of chemical weapons is prohibited under customary international humanitarian law regardless of the presence of a valid military target, including when used against enemy fighters, as the effects of such weapons are indiscriminate by nature and designed to cause superfluous injury and unnecessary suffering.

VI. Use of chemical weapons

67. Between March 2013 and March 2017, the Commission documented 25 incidents of chemical weapons use in the Syrian Arab Republic, of which 20 were perpetrated by government forces and used primarily against civilians.[15] During the reporting period, government forces further used chemical weapons against civilians in the town of Khan Shaykhun, in Al-Latamneh, located approximately 11 kilometres south of Khan Shaykhun, and in eastern Ghouta.

68. While Khan Shaykhun and Al-Latamneh are controlled by Hay'at Tahrir al-Sham, Ahrar-al-Sham and various Free Syrian Army groups, eastern Ghouta is primarily controlled by Jaish al-Islam and Faylaq al-Rahman. At the time of the use of chemical weapons in Khan Shaykhun and Al-Latamneh, Syrian and Russian forces were conducting an aerial campaign against Hay'at Tahrir al-Sham and armed groups in northern Hamah and southern Idlib.

69. At around 6.30 a.m. on 30 March — five days after the chlorine attack on Al-Latamneh hospital by Syrian forces (see para. 64 above) — an unidentified warplane dropped two bombs in an agricultural field south of Al-Latamneh village. Interviewees recalled how the first bomb made almost no sound but released a "toxic material" absent any particular smell, while the second bomb caused a loud explosion. As a result of the former, at least 85 people suffered from respiratory difficulties, loss of consciousness, red

[14] See A/HRC/27/60, paras. 109-111; A/HRC/33/55, paras. 42-65; and A/HRC/34/64, paras. 30-40. See also Independent International Commission of Inquiry on the Syrian Arab Republic, "Human rights abuses and international humanitarian law violations in the Syrian Arab Republic, 21 July 2016-28 February 2017", paras. 15-19. Available at www.ohchr.org/Documents/Countries/SY/A_HRC_34_CRP.3_E.docx.

[15] See A/HRC/23/58, paras. 136-140; A/HRC/27/60, paras. 115-118; A/HRC/28/69, paras. 15 and 43-4443; A/HRC/30/48 and Corr.1, para. 39; A/HRC/33/55, para. 30; and A/HRC/34/64, paras. 17, 34-35, 39 and 52-56. See also Independent International Commission of Inquiry on the Syrian Arab Republic, "Human rights abuses and international humanitarian law violations in the Syrian Arab Republic, 21 July 2016-28 February 2017", paras. 49-51.

eyes and impaired vision. Among the injured were 12 male farmers located 300 metres away from the impact point, 2 of them minors. Nine medical personnel who treated patients without protection also fell ill.

70. While the Commission is unable to identify the exact agent to which the victims of the 30 March incident were exposed, interviewees described certain symptoms, including a very low pulse in one case, and contracted pupils, suffocation, nausea and spasms in another, that indicate poisoning by a phosphor-organic chemical, such as a pesticide or a nerve agent. The absence of a characteristic chlorine odour, coupled with secondary intoxications among medical personnel treating victims, supports the conclusion that a toxic chemical other than chlorine was employed. Given that Syrian and Russian forces were conducting an aerial campaign in the area, the absence of indications that Russian forces have ever used chemical weapons in the Syrian Arab Republic,[16] and the repeated use of chemical weapons by the Syrian air force, there are reasonable grounds to conclude that the Syrian air force used chemical weapons in Al-Latamneh on 30 March.

71. As part of its offensive to fully besiege Barza, Tishreen and Qabun (see annex III, para. 3), three rockets were launched on the afternoon of 29 March from government forces positions into a residential area of central Qabun municipality, close to the Al-Hayat hospital, as well as into neighbouring Tishreen. One of the rockets released a white cloud in Qabun and witnesses recalled the spread of gas, which smelled strongly of domestic chlorine. Thirty-five persons were injured, including one woman and two children. Victims exhibited symptoms consistent with chlorine exposure, including respiratory difficulties, coughing and runny noses. The most serious cases were treated with hydrocortisone I and oxygen. On 7 April, shortly after midday, Al-Hayat hospital received two men suffering from milder manifestations of the same symptoms. In the first week of July, government forces used chlorine against Faylaq ar-Rahman fighters in Damascus on three occasions: on 1 July in Ayn Tarma, on 2 July in Zamalka and on 6 July in Jowbar. In total, 46 fighters suffered from red eyes, hypoxia, rhinorrhoea, spastic cough and bronchial secretions.

72. The gravest allegation of the use of chemical weapons by Syrian forces during the reporting period was in Khan Shaykhun. In the early morning of 4 April, public reports emerged that air strikes had released sarin in the town. Dozens of civilians were reported killed and hundreds more injured. Russian and Syrian officials denied that Syrian forces had used chemical weapons, explaining that air strikes conducted by Syrian forces at 11.30 a.m. that day had struck a terrorist chemical weapons depot.

73. To establish the facts surrounding these allegations, the Commission sent a note verbale on 7 April to the Permanent Representative of the Syrian Arab Republic to the United Nations Office at Geneva and specialized institutions in Switzerland requesting information from the Government. At the time of writing, no response has been received. The Commission conducted 43 interviews with eyewitnesses, victims, first responders and medical workers. It also collected satellite imagery,[17] photographs of bomb remnants, early warning reports and videos of the area allegedly affected by the air strikes. The Commission also took into account the findings of the Organisation for the Prohibition of Chemical Weapons report on the results of its fact-finding mission.[18] Below is a summary of the Commission's findings, elaborated in full in annex II.

74. Interviewees and early warning reports indicate that a Sukhoi 22 (Su-22) aircraft conducted four air strikes in Khan Shaykhun at around 6.45 a.m. Only Syrian forces operate such aircraft.[19] The Commission identified three conventional bombs, likely OFAB-100-120, and one chemical bomb. Eyewitnesses recalled that the latter bomb made less noise

[16] See A/HRC/34/64, para. 17.

[17] Satellite imagery analysis provided by the Operational Satellite Applications Programme. Available at www.ohchr.org/EN/HRBodies/HRC/IICISyria/Pages/IndependentInternationalCommission.aspx.

[18] Available at www.opcw.org/fileadmin/OPCW/Fact_Finding_Mission/s-1510-2017_e_.pdf.

[19] See Independent International Commission of Inquiry on the Syrian Arab Republic, "Human rights abuses and international humanitarian law violations in the Syrian Arab Republic, 21 July 2016-28 February 2017", para. 27.

and produced less smoke than the others. Photographs of weapon remnants depict a chemical aerial bomb of a type manufactured in the former Soviet Union.

75. The chemical bomb killed at least 83 persons, including 28 children and 23 women, and injured another 293 persons, including 103 children. On the basis of samples obtained during autopsies and from individuals undergoing treatment in a neighbouring country, those who undertook the fact-finding mission of the Organisation for the Prohibition of Chemical Weapons concluded that the victims had been exposed to sarin or a sarin-like substance. The extensive information independently collected by the Commission on symptoms suffered by victims is consistent with sarin exposure.

76. Interviewees denied the presence of a weapons depot near the impact point of the chemical bomb. The Commission notes that it is extremely unlikely that an air strike would release sarin potentially stored inside such a structure in amounts sufficient to explain the number of casualties recorded. First, if such a depot had been destroyed by an air strike, the explosion would have burnt off most of the agent inside the building or forced it into the rubble where it would have been absorbed, rather than released in significant amounts into the atmosphere. Second, the facility would still be heavily contaminated today, for which there is no evidence. Third, the scenario suggested by Russian and Syrian officials does not explain the timing of the appearance of victims — hours before the time Russian and Syrian officials gave for the strike.

77. In view of the above, the Commission finds that there are reasonable grounds to believe that Syrian forces attacked Khan Shaykhun with a sarin bomb at approximately 6.45 a.m. on 4 April, constituting the war crimes of using chemical weapons and indiscriminate attacks in a civilian inhabited area. The use of sarin by Syrian forces also violates the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction and Security Council resolution 2118 (2013).

VII. Ongoing investigations

78. The Commission is gravely concerned about the protection of civilians in Ar-Raqqah Governorate, owing to the ongoing offensive by the Syrian Democratic Forces and the international coalition to repel ISIL from Ar-Raqqah city. While numerous neighbourhoods have been rapidly overtaken, over 190,000 civilians have been displaced to areas under the control of Syrian Democratic Forces in the north of Ar-Raqqah Governorate, where they reside primarily in the Ain Issa and Mabrouka camps. The camps lack the resources and capacity necessary to adequately care for those persons. The lives of up to 60,000 other civilians inside Ar-Raqqah city remain at considerable risk under daily air strikes. Protection concerns faced during the conduct of interviews remain an issue.

79. The Commission is currently undertaking investigations into several allegations of aerial attacks in Ar-Raqqah, including an air strike on Al-Mansoura village, at the time held by ISIL, which reportedly caused up to 200 civilian casualties. The Commission has gathered credible information that, on the night of 21 March, an air strike hit the Al-Badiya school in Al-Mansoura, which since 2012 had been used to house internally displaced persons. At the time of the strike, over 200 people, mostly displaced families from Palmyra, Homs, but also from Hamah and Aleppo, were living at the former school, which is located approximately 1.5 kilometres from the village. Some of the victims were recent arrivals, including from Maskanah, Aleppo, while other internally displaced persons had been living there for years. The strike was carried out at night when residents were asleep. Almost all of those inside the school at the time of the strike were killed, while some survivors, including women and children, sustained serious injuries. Information currently available indicates that at least two families of ISIL fighters had been living in the school previously, but left about one month before the strike.

80. After its offensive to take Manbij, Aleppo, from ISIL, the Syrian Democratic Forces required significant reinforcements to set the stage to retake Ar-Raqqah city. The need for increased "manpower" resulted in a surge in forced conscription of thousands of civilians,

predominantly men and boys, and was accompanied by arrests of those unwilling to be conscripted. Investigations are ongoing.

VIII. Conclusions

81. Civilians throughout the country continue to comprise the overwhelming majority of casualties in the Syrian conflict, while children and internally displaced persons remain among the most vulnerable to violence. The de-escalation agreement reached in Astana in May led to a discernible reduction in hostilities and, in turn, a reduction in civilian casualties, first in Idlib and western Aleppo, and more recently in the southern provinces of Dar'a, Qunaytirah and Suwayda'. While this reduction provides the basis for a broader ceasefire, implementation modalities must be promptly agreed upon and effectively applied; as demonstrated by previous ceasefire arrangements, delay in implementation undermines the sustainability of any such agreement and further risks placing civilians back in harm's way.

82. Across the Syrian Arab Republic, warring parties continued to lay sieges and instrumentalize humanitarian aid to compel surrender. Local truces in Fu'ah and Kafraya, in Madaya and Zabadani, and in Barza, Qabun and Tishreen have incorporated evacuation agreements that have resulted in the forced displacement of civilians from these areas.

83. Throughout the reporting period, Hay'at Tahrir al-Sham, ISIL and armed group fighters targeted religious minorities using car and suicide bombings, snipers and hostage-taking. In Al-Rashidin, a car bomb targeted internally displaced persons from the previously besieged Shia Muslim towns of Fu'ah and Kafraya, killing 96 persons, including 68 children. Following the attack, dozens of people went missing, with armed groups taking at least 17 civilians hostage.

84. Government forces used illegal chemical weapons on at least four occasions. In the gravest incident, the Syrian air force used sarin in Khan Shaykhun, killing dozens of civilians, the majority of whom were women and children. As the result of an aerial campaign by pro-Government forces in the area surrounding Khan Shaykhun, many medical facilities were destroyed, which compounded the suffering of victims of the sarin attack. In Idlib, Hamah and eastern Ghouta, Syrian forces also used weaponized chlorine.

85. In ISIL-held areas, civilians remain acutely vulnerable to violence. In Ar-Raqqah, the ongoing offensive by the Syrian Democratic Forces and the international coalition to repel ISIL has rapidly overtaken numerous neighbourhoods in Ar-Raqqah city. Air strikes have reportedly resulted in significant numbers of civilians killed and injured. The offensive has also displaced 190,000 persons, many of whom are now living in perilous conditions. Investigations are ongoing.

IX. Recommendations

86. In addition to the recommendations made below, the Commission reiterates the recommendations made in its previous reports.

87. The Commission recommends that all warring parties:

(a) Immediately lift all sieges and cease strategies aimed at compelling surrender that primarily affect civilians, including starvation and denial of access to humanitarian aid, food, water and medicine;

(b) Conduct evacuations from besieged areas in line with international humanitarian law and Security Council resolution 2328 (2016), which require that evacuations of civilians be voluntary and to final destinations of their choice, and protect all civilians evacuated, including by treating them with dignity and preventing fear of harm;

(c) **Refrain from future evacuation agreements that result in the forced displacement of civilian populations for political gains;**

(d) **Ensure adequate protection for all internally displaced persons and safeguard the right to return for internally displaced persons and refugees, including by guaranteeing their safety and property rights;**

(e) **Refrain from attacking cultural and historic sites when not used for military purposes and proactively assist in the safeguarding of such sites;**

(f) **Effectively ban the recruitment of children and their use in hostilities, and guarantee effective protection of child rights, including access to education;**

(g) **Take all feasible precautions to minimize harm to the civilian population when undertaking operations in civilian-populated areas, in particular during the offensive in Ar-Raqqah city and ISIL-controlled areas;**

(h) **Undertake investigations into the conduct of their forces and make their findings public.**

88. **The Commission recommends that the Government of the Syrian Arab Republic:**

(a) **Immediately cease using chemical weapons, including weaponized chlorine and sarin, which by design cause superfluous injury and unnecessary suffering;**

(b) **In accordance with its obligations under customary international humanitarian law and Security Council resolution 2286 (2016), cease attacks on medical facilities, personnel and transport;**

(c) **Ensure that existing and future legislation concerning legal and administrative matters for individual civilians, including in relation to property rights, complies with international human rights law, refugee law and international humanitarian law, and is equally accessible for all Syrians, with particular consideration for all internally displaced persons and refugees;**

(d) **Grant the Commission access to the country.**

89. **The Commission recommends that anti-Government armed groups:**

(a) **Comply with customary international humanitarian law and cease intentional attacks against civilians, including members of religious minorities;**

(b) **Refrain from kidnappings and hostage-taking, and conduct akin to enforced disappearance;**

(c) **Take urgent measures to discipline or dismiss individuals under their command responsible for such acts.**

90. **The Commission recommends that the international community:**

(a) **In compliance with their obligations to respect and ensure respect for the Geneva Conventions relating to the protection of victims of international armed conflicts, refrain from providing arms, funding or other forms of support to parties to the conflict when there is an expectation that such support may be used to perpetrate violations of international humanitarian law, and ratify treaties that promote respect for international humanitarian law and international human rights law when transferring arms, in particular the Arms Trade Treaty;**

(b) **Refrain from adopting or implementing any unilateral sanctions (unilateral coercive measures) that are unlawful and impede the full realization of human rights by the Syrian people, in compliance with General Assembly resolution 68/162 (2013), and ensure that any lawful sanctions are strictly tailored, with appropriate exemptions, to minimize their impact on humanitarian assistance;**

(c) **Encourage efforts to promote accountability, including by actively supporting the establishment of the International, Impartial and Independent**

Mechanism to Assist in the Investigation and Prosecution of Persons Responsible for the Most Serious Crimes under International Law Committed in the Syrian Arab Republic since March 2011, in accordance with General Assembly resolution 71/248;

91. **The Commission recommends that the Human Rights Council support the recommendations made, including by transmitting the present report to the Secretary-General for the attention of the Security Council in order that appropriate action may be taken, and through a formal reporting process to the General Assembly and to the Security Council.**

92. **The Commission recommends that the General Assembly support its recommendations and enable the Commission to offer regular briefings.**

93. **The Commission recommends that the Security Council:**

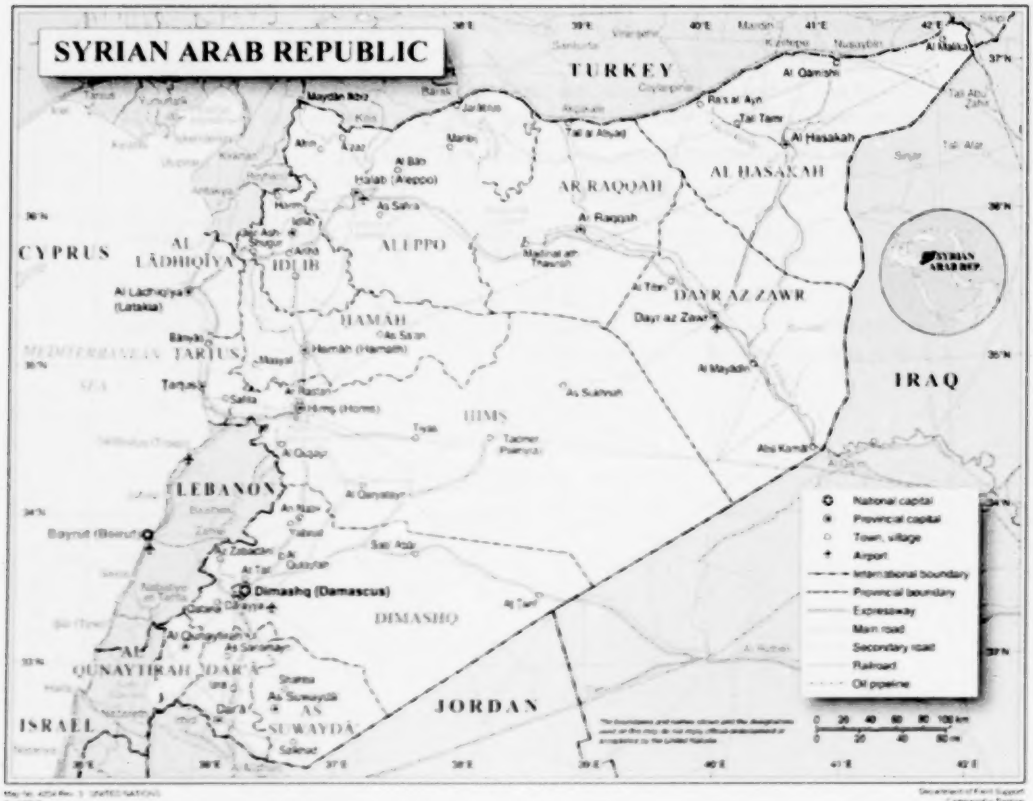
(a) **Support its recommendations;**

(b) **Include regular briefings by the Commission as part of the formal agenda of the Security Council;**

(c) **Use its influence with all relevant actors and stakeholders to ensure a comprehensive and all-inclusive peace process that maintains due respect for human rights and international humanitarian law.**

Annex I

Map of the Syrian Arab Republic



Annex II

Inquiry into allegations of chemical weapons used in Khan Shaykhun, Idlib, on 4 April 2017

I. Initial reports and allegations

1. On the morning of 4 April, public reports emerged that shortly after sunrise a series of airstrikes were launched on Khan Shaykhun, a town in southern Idlib which borders northern Hama. Khan Shaykhun is controlled by armed groups including Ahrar al-Sham and Hay'at Tahrir al-Sham (HTS), an umbrella coalition of extremist factions led by terrorist group Jabhat Fateh al-Sham (previously Jabhat al-Nusra). Throughout the day, news outlets and social media reported that dozens of civilians had died and hundreds of residents were suffering from symptoms consistent with exposure to sarin. The allegations would amount to the first sarin attack in the Syrian Arab Republic since 21 August 2013 when approximately 1,000 people were killed in Ghouta due to sarin exposure. Some hours later, between 11.30 and 1.30 p.m., the al-Rahma medical point and civil defence centre in Khan Shaykhun, which neighbour each other, were reportedly hit by airstrikes while treating patients of the alleged sarin attack. The al-Rahma medical point served as the main trauma facility in Khan Shaykhun.

II. Statements by Russian and Syrian authorities

2. During the course of the day on 4 April, Russian and Syrian authorities made public statements concerning the events in Khan Shaykhun. Both denied the involvement of Syrian forces in the alleged sarin attack suggesting instead that terrorist groups were responsible. The Ministry of Defence of the Russian Federation released a statement saying that the Syrian air force had struck a terrorist depot in Khan Shaykhun between 11.30 a.m. and 12.30 p.m., and that the depot included workshops where chemical warfare munitions were produced.[1] The Syrian Army issued a statement denying it had used chemical agents in Khan Shaykhun and that responsibility for the attack lied with militants.[2]

3. Syrian and Russian officials continued to make statements after 4 April. At a press conference on 6 April, the Syrian Minister of Foreign Affairs repeated the Russian Federation Ministry of Defence claim by saying that the Syrian "army attacked an arms depot belonging to Jabhat al-Nusra chemical weapons". He denied that Government forces had used chemical weapons instead explaining that the first airstrike carried out by Syrian forces in Khan Shaykhun on 4 April was at 11.30 a.m.[3] Subsequently, during an interview on 13 April, President Bashar al-Assad denied that the Syrian army had used sarin and said that the allegations were fabricated, noting "the West, mainly the United States, is hand-in-glove with the terrorists. They fabricated the whole story in order to have a pretext for the attack [on the Shayrat airbase]". He added that "[i]f they said that we launched the sarin attack from that airbase, what happened to the sarin when they attacked the depots?"[4], suggesting the Syrian army's deployment concept for sarin relied on the storage of the

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[1] Facebook post titled "Russian Defence Ministry comments on the destruction of a depot with terrorists' chemical weapons near Khan Sheikhun carried out by the Syrian aviation", posted by the Russian Federation Ministry of Defence on 4 April 2017, *available at* https://www.facebook.com/permalink.php?story_fbid=1903432043232876&id=1492252324550852.

[2] *Syrian Army rejects claims of chemical weapons use in Idlib, blames militants*, SPUTNIK NEWS, 4 April 2014, *available at* https://sputniknews.com/middleeast/201704041052292018-syrian-army-idlib-militants-chemical-weapons.

[3] *Live: Syrian FM Walid al-Moallem, holds press conference in Damascus*, YOUTUBE, video clip uploaded on 6 April 2017, *available at* https://www.youtube.com/watch?v=AcaF1vC8SPA.

[4] Statement in response to the United States airstrike of 7 April against the Shayrat airbase in Homs.

agent itself.[7] Finally, President al-Assad took the position that Khan Shaykhun is not a strategic area and that the Government does not have army or battles there.[8] On 2 May, the Russian Federation Ministry of Defence said that Soviet ammunition KHAB-250 was never exported outside of the USSR and was never filled with sarin.[9]

III. Methodology

4. To establish the facts surrounding these allegations, the Commission sent a note verbale on 7 April to the Permanent Representative of Syrian Arab Republic to the United Nations requesting information from the Government. At the time of writing, no response has been received. The Commission conducted 43 interviews with eyewitnesses, victims, first-responders, medical workers, and persons who visited the site after the attack. It also collected satellite imagery,[10] photographs of bomb remnants, early warning reports, videos of the area allegedly impacted by the airstrikes, and reviewed photographs and videos of victims depicting symptoms. The Commission took into account the findings of OPCW report on the results of its Fact-Finding Mission (OPCW FFM).[11] Taken as a whole, this body of information allowed the Commission to reach the narrative of events and findings below.

IV. Khan Shaykhun's location

5. Khan Shaykhun, a town controlled by armed groups and HTS, is located along the M5 highway. The M5, often described as the most important highway in Syria, connects the country's major cities including Damascus, Homs, Hama, and Aleppo, all of which are currently controlled by Government forces. Owing to its location, warring parties have fought for control over Khan Shaykhun since the early days of the conflict.

6. In March, the area was viewed as having increased strategic value as armed groups and HTS successfully attacked Government positions in Hama. Government forces reacted by carrying out a counter-offensive in southern Idlib, including in Khan Shaykhun, and the neighbouring towns of Kafr Zeita, Murek, and Al-Latamneh in northern Hama. If successful, this offensive would give Government forces control over the only pocket in northern Hama controlled by armed groups and HTS. Interviewees confirmed that in the days leading up to 4 April, numerous airstrikes impacted towns around the area of Khan Shaykhun. The Commission has also investigated and made findings on several incidents using airdropped munition which took place in the area in March and April, including through the use of chemical weapons in Al-Latamneh,[12] and attacks on hospitals in southern

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[7] Information published by the OPCW about the materials declared by the Syrian Arab Republic as part of its chemical weapons stockpile contradicts this statement. *See* OPCW documents EC-M-34/DEC.1 of 25 October 2013, EC-M-34/DEC.1, para. 2(a)(iii) of 15 November 2013, EC-M-36/DEC.4 of 17 December 2013.

[8] *AFP Interview President Assad on chemical attack*, YOUTUBE, 13 April 2017, *available at* https://www.youtube.com/watch?v=3WyVIhDgM9c. Transcript of the interview *available at* https://www.thepeninsulaqatar.com/article/13/04/2017/Transcript-of-exclusive-AFP-interview-with-Syrias-Assad-1

[9] Ministry of Defence: Ammunition HOB 250 has never been exported and were not filled with sarin, RUSSIAN REALITY, 2 May 2017, *available at* https://rusreality.com/2017/05/02/ministry-of-defence-ammunition-hub-250-has-never-exported-and-were-not-filled-with-sarin

[10] UNOSAT satellite imagery analysis uploaded on the webpage of the Commission at www.ohchr.org/EN/HRBodies/HRC/IICISyria/Pages/IndependentInternationalCommission.aspx.

[11] *OPCW Note by the Technical Secretariat, Report of the OPCW Fact-Finding Mission in Syria Regarding an Alleged Incident in Khan Shaykhun, Syrian Arab Republic*, April 2017 (hereinafter "OPCW FFM report"), S/1510/2017, 29 April 2017, *available at* https://www.opcw.org/fileadmin/OPCW/Fact_Finding_Mission/s-1510-2017_e_.pdf.

[12] A/HRC/36/55, paras. 69-70.

Idlib and northern Hama.[12] The latter severely impacted the level of medical care which victims of chemical attacks received.

V. The events of 4 April

7. On the morning of 4 April, the sky was clear. At 6.26 a.m., early warning observers[13] reported that two Sukhoi 22 (Su-22) aircraft had taken off from Shayrat airbase, at least one of which was heading in the direction of Khan Shaykhun. Shayrat is a military airbase in Homs located approximately 120 kilometres south of Khan Shaykhun, and has been used by the Syrian air force throughout the conflict to launch attacks on Homs and Hama. Since late 2015, it is also used as a base by Russian forces. The Commission notes that two individuals interviewed by the OPCW claimed that on the morning of 4 April the early warning system did not issue warnings until 11 to 11.30 a.m., and that no aircraft were observed until that time.[14] The Commission has not gathered any information to support this claim, but rather the opposite, as detailed below. Eyewitnesses explained seeing a plane over Khan Shaykhun at around 6.45 a.m., and numerous interviewees recalled hearing messages from the early warning system 20 minutes prior to the strikes. As further examined below (paras. 17-18), 11.30 a.m. was the time when the al-Rahma medical point in Khan Shaykhun was attacked by airstrikes including cluster incendiary munitions, though not chemical weapons.

8. At around 6.45 a.m., interviewees recalled seeing an aircraft flying low over Khan Shaykhun, which is consistent with the airspeed of the aircraft and the distance that needed to be covered. In the span of a few minutes, the aircraft, identified by interviewees as a Su-22, made two passes over the town and dropped four bombs. The Su-22 is easy to recognise, and difficult to mistake for anything else. Recognition features include a single vertical stabilizer, swing-wings, and flat intake mounted in the nose.[15] Satellite imagery, photographs, and video footage corroborate witness accounts that air delivered munitions hit the impact points of the four bombs. As previously found by the Commission, only the Syrian air force uses Su-22s,[16] an aircraft which has no night-time capability. The Russian Federation and the international coalition do not operate this type of aircraft. It is therefore concluded that the Syrian air force carried out airstrikes on Khan Shaykhun at around 6.45 a.m. on 4 April.

9. Three of the bombs created loud explosions, causing damage to buildings though apparently only one casualty. Based on crater analysis and satellite imagery, the Commission was able to identify three conventional bombs, likely OFAB-100-120, and the remaining a chemical bomb. The chemical bomb landed in the middle of a street in a northern neighbourhood of Khan Shaykhun, approximately 150 meters from al-Yousef park, close to a bakery and a grain silo, which interviewees explained was not operational and unused for any purpose after having been hit by an airstrike in 2016. Eyewitnesses further recalled how this bomb made less noise and produced less smoke than the other three bombs, which is confirmed by video footage of the attack. Photographs of the impact site show a hole, too small to be considered a crater, and the remnants of what appears to have been a Soviet-era chemical bomb. The small hole is indicative of a weapon which used a contact fuze and small burster to deploy chemical agents, with the kinetic energy of the bomb's body creating most of the hole. Two parts of the bomb were found at the site, a large piece of the weapon body marked in green for chemical payload and a filler cap for chemical weapons. Although the Commission is unable to determine the exact type of chemical bomb used, the parts are consistent with sarin bombs produced by the former Soviet Union in the 250kg-class of bombs, which would have approximately 40kg of sarin, depending on the munition used.

[12] A/HRC/36/55, paras. 63-65.
[13] Early warning observers comprise civilians who monitor aircraft flights to provide other civilians with advance warning prior to an airstrike.
[14] OPCW FFM report, paras. 5.27-5.29.
[15] A/HRC/34/CRP.3, para. 26.
[16] A/HRC/34/CRP.3, para. 27.

10. The weather conditions at 6.45 a.m. of 4 April were ideal for delivering a chemical weapon. Data based on historical weather forecasts indicates that the wind speed was just over three kilometres per hour from the southeast, that there was no rain and practically no cloud cover, and that the temperature was around 13 degree Celsius.[16] The OPCW FFM, in the absence of actual weather data recorded for Khan Shaykhun and instead relying on actual weather data recorded at three other locations in the area, concluded that the wind speed was low with uncertain direction, most likely coming from somewhere between the south and east. All available data indicates stable atmospheric conditions without significant turbulence. Under such conditions, the agent cloud would have drifted slowly downhill following the terrain features at the location (roads and open spaces), in a southerly and westerly direction. This is consistent with the observed locational pattern of individuals becoming affected by the agent cloud.

11. The chemical bomb released a cloud which spread over a distance between 800 and 600 metres from the impact point and killed at least 83 persons, including 28 children and 21 women. One interviewee said that most of those severely affected, including many who died, were within 200 metres to the south and west from the impact point of the bomb, while most of the ones less seriously injured were further away. Many of the deceased victims were buried in Khan Shaykhun.

12. Some of the victims died in bed and their bodies were not found until later on 4 April. A single mother who was out farming returned home to find all but four children dead. The body of one orphaned girl was found the following day. Also on 5 April, one interviewee found the body of a woman and her six children in a basement, where they had apparently tried to take shelter from the gas released by the chemical bomb. Another interviewee described how, on the way to his family's home, he witnessed people dying in the street and children desperately crying for the help of their parents. When he arrived at the house, he found his niece dead and his two sisters struggling to breathe. He lost consciousness shortly afterwards and woke up in hospital where he learned his sisters had died. In total, 291 persons, including 103 children, were injured. Medical practitioners expressed particular concern over parturient women and the effects that the toxic agent posed to their unborn babies. A lack of access to adequate medical equipment however prevented doctors from establishing whether foetuses were affected.

13. Upon learning of the airstrikes, civil defence teams from Khan Shaykhun and from neighbouring Hizah went on location to assist in rescue efforts. They were unaware at the time of the possibility of the release of a chemical agent so they did not carry respirators or other protective equipment. Several fell ill upon arrival to the scene, and at least two died. When they realized a chemical agent may have been present, rescuers warned incoming teams of first-responders who carried respirators with them. Some of these using respirators reported that, despite this protection, they too felt affected by the gas. First-responders removed the clothes from victims, washed them with water, and provided them with oxygen masks. Several medical workers said that first-responders may have inadvertently exposed victims to additional quantities of sarin by removing the clothes on their upper bodies over their mask instead of cutting them off. By removing their clothes this way, victims would have inhaled sarin as the clothes passed by their mouths and noses.

14. After washing the victims, first-responders used ambulances, cars, and motorbikes to transport victims to several medical facilities in the area, with the al-Rahma medical point in Khan Shaykhun receiving approximately 80 victims. Others were taken to the al-Salam and al-Bashir state hospitals in Maaret al-Numaan, the Qilo hospital in Saraqeb, and hospitals and clinics in Aracha, Ma'aret Misrin, Jarjnaz, Maar Shurin, Abdeen, Tal Minnes, Kafr Nabel, Binnish, Idlib city, Adnan Kawam, Hass, and Bab al-Hawa. Overall, these facilities were ill-equipped to deal with victims of chemical attacks other than chlorine — an issue compounded by the large number of victims and the severity of the symptoms from which they suffered.

[16] See, e.g., Khan Shaykhun, Idlib Historical Weather Terms, *available at* [redacted].

15. Moreover, just one and a half days before the attack, on the evening of 2 April, Syrian and/or Russian forces carried out airstrikes which directly hit the Maarat al-Numan National Hospital, using at least three delayed fuse aerial bombs. The attacks against the hospital destroyed its upper floors where the inpatients' room and intensive care unit were located. Most of the hospital's equipment, including incubators, were also destroyed. The Maarat al-Numan hospital, located 24 kilometres north of Khan Shaykhun, is described by medical staff as the main hospital in the area and the one which could have more adequately dealt with cases of patients exposed to chemical agents. Before the strikes, it employed 300 staff including 20 doctors and over 100 nurses, some of which had received training on treating victims of chemical agents and who subsequently trained their colleagues. The hospital also contained large stocks of atropine, hydrocortisone, diazepam, and oxygen concentrators. As a result of the airstrike, the hospital could only treat some 15 victims of the 4 April chemical attack. One victim who was seriously injured by the gas released by the chemical bomb noted that first-responders took him to Maarat al-Numan National Hospital because they were unaware the hospital had been struck two days earlier. The hospital was unable to treat him, and he was subsequently transferred to another hospital.

16. Depending on what the healthcare facilities had available on 4 April, victims of the sarin attack were given atropine to help reactivate their heartrates, and pralidoxime to reverse chemical poisoning, though several medical staff reported that most hospitals did not have the latter or only had it in small quantities. Doctors noted that most of the existing pralidoxime had expired because, after the 2013 attack in Ghouta and the subsequent removal and destruction of Syria's chemical weapons by the Joint Mission of the United Nations and the OPCW in 2013 and 2014, it was announced that chemical weapons such as sarin no longer existed in Syria. For these reasons, hospitals ceased planning for these types of attack. In the absence of alternatives, doctors administered the expired pralidoxime to patients. Owing to the high number of casualties, several hospitals ran out of atropine and requested other medical facilities to provide them with additional medication. To help them breathe, many of the victims were intubated and, where available, placed in respirators. At least 31 persons were taken from medical facilities in the Syrian Arab Republic to hospitals in a neighbouring country, where at least three subsequently succumbed to their injuries and passed away. Several medical workers noted that the combination of lack of appropriate and sufficient medication, overall shortage of staff, extremely reduced capability of Maarat al-Numan National Hospital, and consequent need to take patients to more distant healthcare facilities all contributed to the overall high number of fatalities.

17. Al-Rahma medical point and the neighbouring civil defence centre operate from caves in the mountains, located approximately two kilometres from the centre of Khan Shaykhun. Rescuers took many of the victims directly from the area affected to al-Rahma where at least 25 persons died. Several interviewees explained that al-Rahma was not prepared to treat victims of chemical attacks but that patients were only taken there because it was the closest medical facility. Throughout the morning of 4 April, after the 6.45 a.m. airstrikes, interviewees saw drones over the skies in Khan Shaykhun and between 11.30 a.m. and 1.30 p.m., a series of airstrikes directly impacted the medical point and the civil defence centre, which were treating patients of the chemical attack. Airstrikes in Khan Shaykhun were reported until 4.00 p.m. Eyewitnesses further noted that the airstrikes which struck al-Rahma were conducted by jetfighters. As a result of the attack, the al-Rahma medical point was forced to transfer all intensive care patients to other hospitals without ventilators. Due to the lack of sufficient ambulances, many patients were transferred in civilian vehicles.

18. Interviewees further detailed that the medical point was struck at least three times over the span of a few minutes. One of the strikes destroyed the only external building of the medical point and several ambulances. Another strike hit the hospital's upper floor and its warehouse destroying some equipment. Though there were no fatalities from the attack, some medical staff and patients sustained minor injuries. Photographs provided to the Commission show the main building and surrounding area were struck by aerial bombs. The building sustained a direct hit from at least one blast weapon and several shallow craters pockmark the site. Additionally, burned out remnants of what appear to be ZAB 2.5SM aerial incendiary munitions were found in scorched grasses dotting the area. In view of the fact that the Commission has previously documented Syrian and/or Russian air

forces having used cluster incendiary munitions,[17] that international coalition forces do not use these type of munitions, and that Russian and Syrian officials acknowledged that at the time of the strike, between 11.30 a.m. and 13.30 p.m., the Syrian air force conducted airstrikes in Khan Shaykhun, the Commission finds that there are reasonable grounds to believe that either Syrian and/or Russian forces conducted the airstrike against the al-Rahma medical point.

VI. The use of sarin

19. Sarin is a synthetic, odourless liquid nerve agent which can be dispersed in air as an aerosol. Upon release, the agent cloud drifts with the wind as well as following terrain features. Unprotected humans will experience both external contamination (skin, hair, clothing), and absorb the agent via inhalation and via the skin. The symptoms of sarin poisoning vary depending on the dose received (page 32), though a classic symptom is miosis (extreme contraction of the pupils). In severe cases, the symptoms include cramps, muscular contraction, seizures, severe pain, and severe respiratory distress; the cause of death is asphyxiation by blockage of the lung muscles as well as the respiratory centre in the central nervous system. The agent or its characteristic biomarkers can be detected in biomedical samples collected from victims for some time (several days in the case of urine, and weeks in the case of blood or other tissue samples collected from survivors or during autopsies). The agent, its characteristic degradation products, and certain impurities contained in the agent mixture can also be found in environmental samples taken from the impact area.

20. According to the OPCW report,[18] the OPCW FFM attended the autopsies of three alleged victims in a neighbouring country one day after the alleged attack, and visited ten patients in three hospitals four days later to retrieve biomedical samples for analysis. It also conducted several interviews: one patient and one treating physician were interviewed during the hospital visit on 8 April, and subsequent interviews with two patients who had tested positive for sarin exposure were conducted on 31 May and 1 June, respectively. The OPCW FFM also received environmental and biological-environmental samples collected by non-governmental organisations at the alleged incident location, as well as additional biomedical samples collected at medical facilities in opposition-controlled areas. In addition, the OPCW FFM collected information from the Syrian Government during two visits to Damascus, and visited the Scientific Studies and Research Centre (SSRC) in Barza where it received environmental samples and metal fragments from the impact area which the SSRC had previously analysed.

21. While the Commission was unable to collect or test bio-medical and environmental samples, it notes that based on bio-medical samples obtained during autopsies and from individuals undergoing treatment in a neighbouring country the OPCW FFM found that these individuals were exposed to sarin or a sarin-like substance. The OPCW FFM witnessed the acquisition of these biomedical samples and applied chain of custody procedures to demonstrate sample authenticity and integrity, and the analysis was undertaken by two independent Designated Laboratories, both of which have previously demonstrated their competence for this type of analysis in official OPCW Proficiency Tests. This analysis found that the tissue samples collected from the three victims (blood, brain, hair, lung and liver tissue) who had died contained (with the exception of one hair sample) characteristic biomarkers demonstrating the exposure of the victims to sarin or a sarin-like substance. The analytical findings were consistent with the autopsy reports, which had concluded that the cause of death in all three cases had been exposure to a toxic gas.

22. Bio-medical samples of seven of the 10 persons undergoing treatment in the neighbouring country showed that they, too, were exposed to sarin or a sarin-like substance. These analytical findings were consistent with the clinical symptoms observed,

[17] A/HRC/34/64, paras. 14, 59-60; A/HRC/34/CRP.3, paras. 59-60.

[18] OPCW FFM report, paras. 3.16, 3.52-3.53, 3.64, and 4.7-4.9.

Furthermore, the OPCW FFM was able to confirm by comparative DNA analysis that two individuals who had been the source of blood samples taken in Syria without the OPCW FFM team present were identical to two patients who had given blood samples in the neighbouring country in the presence of the OPCW FFM team. The Designated Laboratory results of the biomedical samples taken from these two patients on both occasions were consistent, and showed exposure to sarin or a sarin-like nerve agent. This DNA test together with the laboratory findings confirms that there was a link between the individuals from whom biomedical samples were taken in the neighbouring country in the presence of the OPCW FFM, the site of the alleged attack, and the witness testimony.

23. Taken together, the epidemiological data available, the clinical symptomatology reported, the laboratory results of autopsy and biomedical samples taken from alleged victims, and the identity confirmation of two individuals samples of whom had been collected in the presence of the OPCW FFM subject to full chain of custody procedures as well as in biomedical samples collected at medical facilities in Khan Shaykhun [19] leave no doubt that sarin or a sarin-like agent had been released in Khan Shaykhun on 4 April, and that it killed or injured these victims.

24. The OPCW FFM could not independently verify the provenance of the additional samples it received from third parties. It attempted to corroborate the information about the collection of these samples by testimony and by verifying accompanying documents including photographs and videos taken at sample collection. The OPCW FFM reported that, although it was not in a position to categorically verify the entire chain of custody of these samples, the testimony and documentation submitted alongside the samples provided a good degree of confidence.

25. The analysis of biomedical specimen received from the Khan Shaykhun Medical Centre (blood, liver tissue, lung tissue, and hair samples taken at autopsies from three fatalities) undertaken by two OPCW Designated Laboratories confirmed exposure to sarin or a sarin-like substance.

26. The results of the analyses of the additional environmental samples (animal parts, vegetation, and soil from the impact area) showed chemical signatures consistent with a release of sarin or a sarin-like nerve agent: the presence of primary and secondary degradation products of sarin in environmental samples; fluoride regeneration of sarin and the detection of a tyrosine adduct in biological samples confirming the exposure of the dead animals to sarin or a sarin-like agent; and the detection of by-products of sarin synthesis and certain other characteristic impurities in the environmental samples.[20]

27. The OPCW FFM also received environmental samples (soil, metal fragments, bone, vegetation, and extracts) from the Syrian government, together with a video recording of the sample collection. An unnamed volunteer from Khan Shaykhun had reportedly provided these samples to the Syrian authorities, and the samples had been analysed by the SSRC Barzа. The OPCW analysed these samples at its central laboratory in Rijswijk, the Netherlands. Results of the analyses by the two laboratories (OPCW and SSRC) were broadly consistent, showing the presence of sarin and impurities related to sarin synthesis and characteristic degradation products. Both laboratories also found hexamine in some of the samples.[21] The presence of hexamine was not further explained by the OPCW FFM, but the chemical had also been found in environmental samples collected 2013 after the Ghouta incident. Two competing explanations have been offered in the past to explain the presence of hexamine — either the chemical might indicate the use of an artisanal explosive (RDX) for agent dispersion, or it had been used in the sarin synthesis as an acid scavenger. While the former explanation cannot be ruled out, the latter would be consistent with the chemicals declared by Syria in 2013 to the OPCW as part of their chemical weapons stockpile,[22] as well as with the process used in the past by the Syrian army for employing

[19] OPCW FFM report, paras. 5.90-5.95.

[20] OPCW FFM report, paras. 5.99-5.102.

[21] OPCW FFM report, paras. 5.103-5.106.

[22] *OPCW request for expression of interest (EOI)*, initially posted on the OPCW website on 20 November 2013, EOI reference OPCW/CDB/EOI/01/20913, OPCW document S/1142/2013 of 22

sarin (binary synthesis shortly before use without subsequent purification of the agent for long-term storage).

28. The Commission has independently gathered extensive information which, in the aggregate, strongly supports the claim that the victims were exposed to sarin or a sarin-like substance. Apart from the fact that none of the victims was observed to have wounds or visible injuries, the symptoms reported are consistent with those suffered by persons exposed to an organophosphorus chemical such as sarin. These include: foaming from the mouth and nose, contracted pupils, respiratory difficulties, coughing, blue lips, pale or yellow skin, loss of consciousness, dizziness, convulsions, vomiting, paralysis, and diminished heartbeat. First-responders and medical staff recalled suffering from headaches, nausea, congested chests, and blurred vision after treating patients. Five weeks after 4 April, at least four interviewees were still experiencing some of these symptoms.

29. Most of the interviewees at the scene when the agent cloud was released or who arrived on location shortly thereafter stated they did not notice any particular smell, which is consistent with the fact that sarin is odourless. Some interviewees, however, reported a "bad smell". One interviewee described it as similar to drainage or waste water, while another said it resembled a strong insecticide. It should be noted that there is a fair degree of variability in the sensitivity of humans to smell, so such discrepancies are not unusual. It is also apparent from the analytical results of the environmental samples that the agent released into the atmosphere contained a number of impurities (several phosphor-organic compounds, hexamine, fluorinated compounds), which would explain the insecticide-like or otherwise bad smell perceived by some witnesses.

VII. Findings

30. The extensive body of information gathered by the Commission indicates that a Syrian Su-22 conducted four airstrikes in Khan Shaykhun at approximately 6.45 a.m. on 4 April. Photographs of remnants taken at the sites along with satellite imagery corroborate eyewitness testimony identifying the impact points of the four aerial bombs. Eyewitnesses and early warning reports identified the aircraft as a Su-22, which only the Syrian air force operates.

31. The Commission identified three of the bombs as likely OFAB-100-120 and one as a chemical bomb. Interviewees consistently stated that this latter bomb produced less noise and less smoke than the other three, and that it released a gas which spread over a distance between 300 and 600 meters. Photographs of remnants provided to the Commission by interviewees further indicate an aerial chemical bomb was employed. Further, weather conditions at 6.45 a.m. on 4 April were ideal for delivering a chemical weapon. The wind speed was just over three kilometres per hour, with no rain and practically no cloud cover. Under such conditions, the agent cloud would have drifted slowly downhill following the terrain features at the location (roads and open spaces), in a southerly and westerly direction.

32. At least 83 persons, including 28 children and 23 women, were killed, and an additional 293 persons including 103 children were injured after being exposed to gas released by the chemical bomb. Based on bio-medical samples obtained during autopsies and from individuals undergoing treatment in a neighbouring country, the OPCW FFM found that these individuals were exposed to sarin or a sarin-like substance. Information gathered by the Commission from victims, eyewitnesses, and medical personnel on the symptoms suffered by victims is also consistent with exposure to sarin. None of the victims had wounds or visible injuries, and all experienced a combination of the following symptoms: foaming from the mouth and nose, contracted pupils, respiratory difficulties, coughing, blue lips, pale or yellow skin, loss of consciousness, dizziness, convulsions, vomiting, paralysis, and diminished heartbeat.

November 2013. This UN listed chemicals from the declared Syrian chemical weapon stockpile and included binary chemical weapons components as well as 80 metric tonnes of hexamine.

33. In its investigation, the Commission considered and investigated all potential scenarios, including claims put forward by Russian and Syrian officials. The Commission has not, however, found any evidence to support the claim that HTS or armed groups had a weapons depot in the area where the chemical bomb impacted. Satellite imagery shows damage to a structure at a nearby grain silo which could correlate with the area where the victims of the sarin release were found, though the silo and a nearby bakery were empty following airstrikes last year. Furthermore, the Russian Federation Ministry of Defence and the Syrian Minister of Foreign Affairs argue that the weapons depot was hit between 11.30 a.m. and 12.30, while the evidence laid out above overwhelmingly indicates that the sarin gas was released at around 6.45 a.m.

34. Though the Commission cannot discount the possibility that interviewees did not acknowledge the existence of a weapons depot out of fear of retaliation or out of loyalty to HTS or armed groups, it notes that it is extremely unlikely that an airstrike against such a depot could release sarin stored inside that structure in amounts sufficient to explain the numbers of casualties recorded. First, if there had been such a sarin weapons depot destroyed by an airstrike, the explosion would have burnt off most of the agent inside the building or forced it into the rubble where it would have been absorbed, rather than released in significant amounts into the atmosphere. Second, the facility would still be heavily contaminated today, for which no evidence exists. Third, the scenario suggested by the Russian Federation Ministry of Defence and the Syrian Minister of Foreign Affairs does not explain the timing of the appearance of victims of sarin exposure — well before the time, 11.30 a.m., that the Russian Federation Ministry of Defence and the Syrian Minister of Foreign Affairs provided for the attack. Finally, the impurities identified in the environmental samples analysed by the OPCW indicate that the released agent had not been purified. This rules out long-term storage of large amounts of sarin, which would have required agent purification. If, on the other hand, the facility had stored the precursor materials for sarin, an explosive destruction would not have released sarin into the air. Moreover, had there been sarin production going on at the time of the attack, the amount of agent would have been small and almost all of the agent would have been burnt off or ended up as local contamination though not in the atmosphere — some agent release into the atmosphere in such a scenario cannot be ruled out but it would not nearly be sufficient to explain the number of casualties.

35. In view of the above, the Commission finds that the claim that airstrikes hit a depot producing chemical munitions or that the attack was fabricated are not supported by the information gathered. On the contrary, all evidence available leads the Commission to conclude that there are reasonable grounds to believe Syrian forces dropped an aerial bomb dispersing sarin in Khan Shaykhun at around 6.45 a.m. on 4 April. The use of chemical weapons is unequivocally banned under international humanitarian law. The use of sarin in Khan Shaykhun on 4 April by Syrian forces constitutes the war crimes of using chemical weapons and indiscriminate attacks, and violation of the prohibition on the use of weapons designed to cause superfluous injury and unnecessary suffering. The manufacture, storage, and use of sarin also violates the Chemical Weapons Convention and Security Council resolution 2118 (2013).

36. As noted above, the Commission further investigated the airstrikes which impacted Khan Shaykhun after 11.30 a.m. It found that these airstrikes struck the al-Rahma medical point while it was functioning solely as a civilian healthcare facility treating victims of the chemical attack. Based on the fact that the medical point was struck with cluster incendiary munition, which only Syrian and Russian air forces use, and that Russian and Syrian officials acknowledged that after 11.30 a.m. the Syrian air force conducted airstrikes in Khan Shaykhun, the Commission finds that there are reasonable grounds to believe that either the Syrian and/or Russian forces conducted the airstrike against the al-Rahma medical point. By bombing the al-Rahma medical point, which also destroyed ambulances, Syrian and/or Russian forces committed the war crimes of deliberately attacking protected objects, and intentionally attacking medical personnel and transport.

Characteristics of sarin[23]

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Annex 5

CHARACTERISTICS OF NERVE AGENTS AND SARIN

Properties of Nerve Agents

Sarin belongs to a group of organophosphorus chemical warfare agents called nerve agents, which are chemically and structurally related to organophosphorus pesticides. They are absorbed by inhalation, ingestion or through the skin. For volatile nerve agents such as sarin, inhalation is considered to be the primary route of entry.

In their purest form, nerve agents are colourless and odourless liquids, however colouration can vary from pale yellow to dark brown depending on the level of impurities present. Sarin is one of the more volatile nerve agents and evaporates at a similar rate to water. It breaks down fairly quickly in the presence of water (hydrolysis) to give characteristic breakdown products.

Nerve agents are particularly toxic when absorbed by inhalation, but can be absorbed following ingestion, dermal, or eye contact.

Nerve agent vapour is denser than air and therefore has a tendancy to accumulate in low-lying areas.

Effects on Humans

Nerve agents exert their toxic action through the sustained inhibition of the enzyme acetylcholinesterase (AChE). When AChE is inhibited, it is unable to break down the neurotransmitter acetylcholine (ACh). This causes a build-up of neurotransmitter at the nerve synapse which in turn causes excessive stimulation of the nervous system.

Nerve Agent absorbed through lungs or skin casues cramps, muscular contraction, seizures and severe pain, the effects on diaphragm is to lock the lungs in place, causing asphixiation and subsequently death.

Local effects such as miosis (pin point pupils), may occurr in the absence of systemic poisoning.

Dependent on the concentration exposed to and the duration of the exposure, nerve agents can cause the following symptoms:

- Mild symptoms include headache, nausea, miosis, blurred vision, tearing (lachrymation) and painful eyes; runny nose, excess salivation, sweating, muscle weakness and agitation, chest tightness.
- Moderate symptoms include dizziness, disorientation and confusion, sneezing coughing and or wheezing, marked drooling and excess mucous production, vomiting and diarrhea, marked weakness, difficult in breathing.
- Severe symptoms include severe respiratory distress, pulmonary oedema, convulsions, ventricular arrhythmias, unconsciousness, involuntary urination or defecation.

Medical treatment and antidotes

- Atropine: antagonises the effects of ACh, it is particularly effective in decreasing secretions and treating bradycardia (slow heart beats).
- Oximes: reactivation of inhibited enzymes, thereby decreasing the amount of excess ACh.
- Diazepam: Central Nervous System protector, useful to control agitation and convulsions.

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[23] OPCW FFM report, Annex 5.

Annex III

Life under siege and truces

1. In the Damascus countryside mountain town of Madaya, the Commission first documented Government forces using starvation as a weapon of war in late 2015.[1] Government forces alongside Hizbullah encircled Madaya in June 2015 as part of a military offensive against the neighbouring town of Zabadani, tightening their siege around Madaya in September, and imposing a complete blockade on goods into Madaya, Zabadani, and neighbouring Bqine. Anti-personnel landmines were used to trap civilians inside Madaya, while pro-Government snipers shot at those attempting to reach the water spring in Bqine, including young children. By December 2015, residents in Madaya resorted to eating grass, leaves, and cats which religious leaders were forced to officially sanction as permissible (*halal*). Others recalled drinking boiled water seasoned with salt and cumin for breakfast and dinner to stave off hunger pangs.

2. In March 2015, armed groups primarily under the Jaish al-Fatah formation overtook Idlib city and laid siege to the predominantly Shi'a towns of Fu'ah and Kafraya. They immediately cut-off water and electricity to the besieged population. Though Government forces were occasionally able to airdrop aid, armed groups only allowed humanitarian aid convoys to enter the enclaves sporadically over the previous over two years, leaving up to 20,000 individuals in a perilous situation. Hospitals and clinics had no supplies, which led to some women dying while giving birth. The United Nations, International Committee of the Red Cross (ICRC), and Syrian Arab Red Crescent (SARC) were last granted access to deliver humanitarian assistance to Madaya and Bqine, and Fu'ah and Kafraya in 14 March 2017, though aid had not been granted prior to that since November 2016.

3. Similarly, in the eastern Damascus municipalities of Barza, Tishreen, and Qaboun, Government forces intensified an aerial campaign in February, decimating large swathes of civilian infrastructure. By mid-March, they recaptured segments of a road between Barza, Qaboun, and Tishreen, severing any connection between the neighbourhoods, and, by May, fully besieged all three areas whereafter no humanitarian aid was allowed to enter any of the neighbourhoods. One interviewee in Qaboun recalled the shortage of food, noting civilians "did not even have dried bread to eat".

4. In order to draw an end the crippling effects of these sieges, a truce initially negotiated in September 2015 was implemented in April this year concerning Madaya and Zabadani (Damascus countryside), and Fu'ah and Kafraya (Idlib), collectively known as the "Four Towns" agreement. Similarly, in May, local truces were implemented in Barza, Tishreen, and Qaboun (eastern Damascus). All truces have been finalised in either oral or written forms, and, while the terms of each are unique to the besieged locality surrendering, details provided by interviewees reveal numerous similarities between them which have been observed over the period under review.

5. The "Four Towns" agreement was entered into between Hay'at Tahrir al-Sham and Ahrar al-Sham on the side of terrorist and armed groups, and Hizbullah, Iran, and Qatar on the other. Elements of the agreement included: the departure of fighters and an unspecified number of civilians from Madaya, Zabadani, and Bloudan towards Idlib (though the Commission notes at least 5,000 left); departure of up to 8,000 pro-Government forces and civilians and from Fu'ah and Kafraya; exchange of prisoners and corpses; and the release of 1,500 detainees by Government forces, primarily women. The agreement also included evacuation of fighters from Yarmouk camp (Damascus), among other details.

6. Local truces in Barza, Tishreen, and Qaboun were all negotiated between Government forces and armed groups, sometimes with the assistance of local council members, and implemented in May. In Barza, the initiative to negotiate a local truce

[1] A/HRC/31/68, paras. 120 and 129; *see also* International Committee of the Red Cross (ICRC), *Customary International Humanitarian Law*, 2005, Volume I: Rules, at Rule 53.

stemmed primarily from the 1st Brigade of Damascus (a Southern Front affiliated armed group). It stipulated that fighters would surrender heavy weapons, and that a set number of the population would to leave to Idlib. In Tishreen, virtually the same conditions were applied, though the entire civilian population was to evacuate. In Qabun, the local truce was negotiated between Government forces and armed group leaders together with local council delegates. The agreement was orally agreed to, and stipulated that fighters would surrender heavy weapons, all tunnels leading to eastern Ghouta would be closed, and all civilians and fighters would evacuate to Idlib. Though negotiations over prisoner exchanges occurred in some cases, such exchanges were ultimately not carried out in these three municipalities.